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March 15, 2010

VIA ELECTRONIC DELIVERY

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Room TWA325
Washington, DC 20554

RE: Note of Ex Parte Presentation
ET Docket No. 04-186 Unlicensed Operation in the TV Broadcast Bands

Dear Ms. Dortch:

On March 12, 2010, Mr. Brett Tarnutzer and Ms. Karen Wrege from KB Enterprises and Georg Schöne and Mr. Peter Riemann from LS telcom met with Mr. Louis Peraertz, Legal Advisor to Commissioner Mignon Clyburn; Mr. David Goldman, Legal Advisor to Chairman Julius Genachowski; Mr. Andrew Martin, Chief Information Officer in the Office of the Managing Director; Mr. Julius Knapp, Mr. Hugh L. Van Tuyl, Mr. Ira Keltz, Ms. Karen Ansari, Mr. Peter Georgiou, Ms. Geraldine Matise, Mr. Mark Settle, Mr. Bruce Romano and Mr. Alan Stillwell of the Office of Engineering and Technology.

The parties discussed the KB/LS proposal for developing and operating a TV Bands database. In the meeting, the group described KB Enterprises' experience with FCC licensing systems and LS telcom's experience with spectrum management systems, having deployed spectrum management system components with regulators in over 70 countries worldwide. LS telcom further described their spectrum management system including its security features and how its components would be integrated into a TV bands database.

The parties also expressed their belief that the interests of a competition and innovation are best served with the approval of multiple TV bands database providers.

This letter, along with a copy of the presentation and handouts, is filed electronically, in accordance with Section 1.1206(b) of the Commission's Rules, 47 C.F.R. § 1.1206(b), for inclusion in the record in this proceeding. Please refer any questions regarding this matter to the undersigned.

cc: Mr. Louis Peraertz
Mr. David Goldman
Mr. Andrew Martin

Mr. Julius Knapp
Mr. Hugh L. Van Tuyl
Mr. Ira Keltz
Ms. Karen Ansari
Mr. Peter Georgiou
Ms. Geraldine Matise
Mr. Mark Settle
Mr. Bruce Romano
Mr. Alan Stillwell

/s/

Brett Tarnutzer
KB Enterprises LLC

Leveraging the SPECTRA system to implement the TV Band database.

The SPECTRA system has been adapted to scenarios in a multitude of countries around the world and also is operating in Region II of ITU with identical TV scenarios as in the US. The development and implementation of the LS SPECTRA system demonstrates our technical competence and business viability, and several of the SPECTRA modules will be used as the core of the TV band database described in our proposal.

Technical coordination:

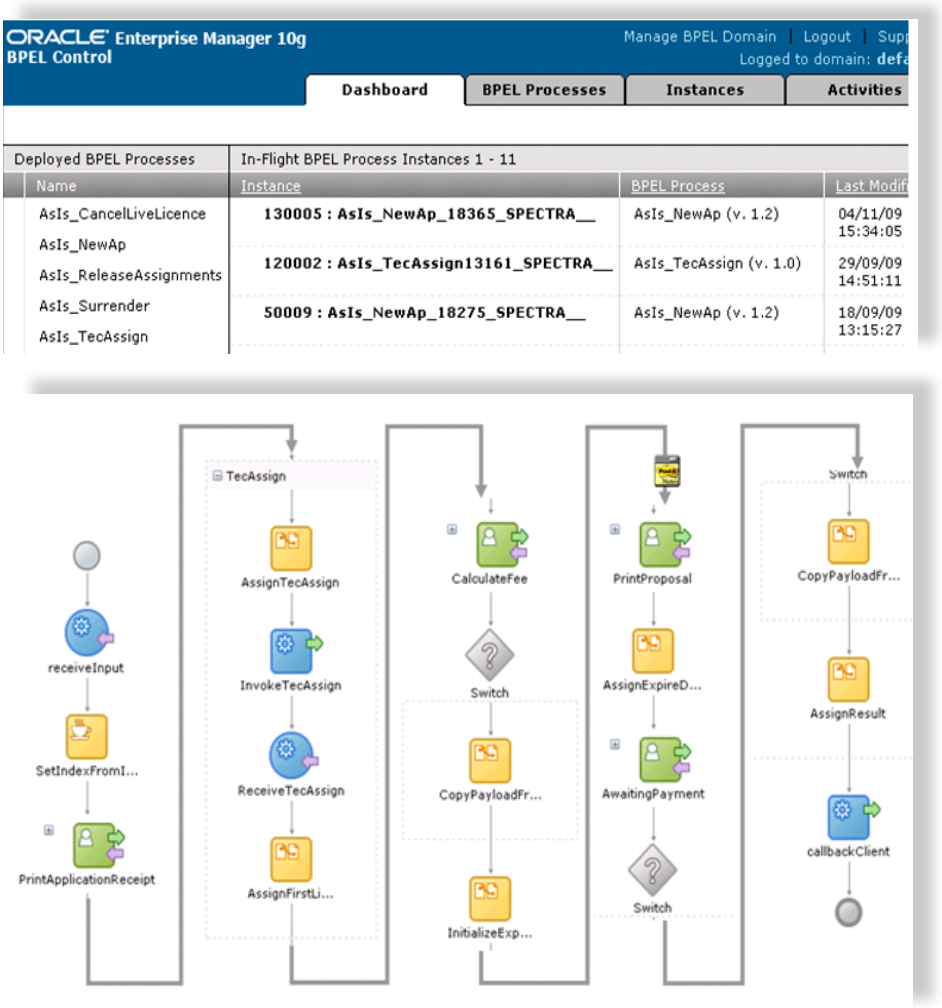
The SPECTRA system has programmable and automated coordination scenario wizards built in. These wizards support any possible US or internationally defined co-ordination schema, and can be modified in a matter of days. The calculation methods (propagation models) are already available in the software, making implementation fast and efficient. The system is flexible for any further modification required by FCC resulting from the use of the TVBD's with incumbent services.

System integration:

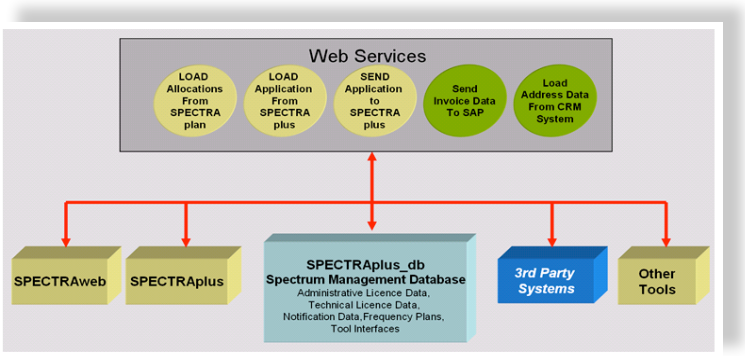
The SPECTRA system has flexibility from its modularity design. In particular:

- The technical module responsible for the technical co-ordination analysis (SPECTRAemc) is scalable in order to respond to higher performance demands.

- The process engine is based on ORACLE BPEL allowing for multiple cases running and being controlled in parallel. In some of our existing spectrum databases there are several million cases running and being administered in parallel:

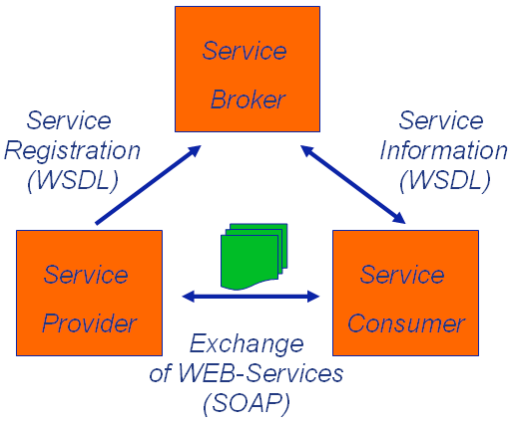


- The Interaction between the Modules works on an extremely fast internal BUS system and WEB services are used to embed any kind of external modules or services where required. This technique is used also for the process control via the BPEL engine.



- In order to prevent abuse in filing and ensure that unlicensed low power devices are accurately represented in the database, the FCC may want to consider requiring any low power auxiliary device user to first obtain an FCC registration number (FRN) through CORES before registering with the TV band database. Requiring an FRN when filing would help to prevent large-scale spamming that could negatively impact the database accuracy and performance.

- Interfacing with other TV-Databases will need to be defined with any other entities operating databases; KB/LS has already begun discussions with several of the other applicants. There are several approaches for the interfacing, and KB/LS recommends the use of WEB services:



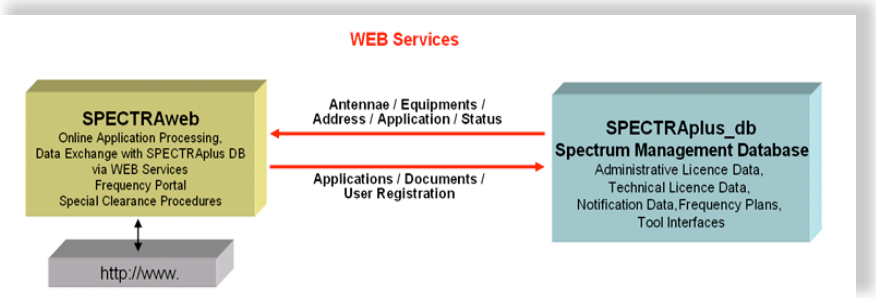
  - Services are registered at a service broker
  - Communication is fully WEB transparent
  - Service Broker, Provider and Consumer can be completely distributed
  - Data Exchange happens via XML-based standard format
  - No restrictions for technology mix
  - Most tasks can be solved fully service oriented
  - Tool box of WEB services may be used as basis for user developed applications (SMS Middleware)

System Security

Security plays an important role in our systems, especially in the context of such a fully automated configuration being web-exposed and therefore a potential target for Hacker and BOT attacks. Our security plan includes the following steps:

- Transport layer protection as described in the proposal

- Protection of the Database itself by decoupling it from the WEB end via a WEB service exchange:



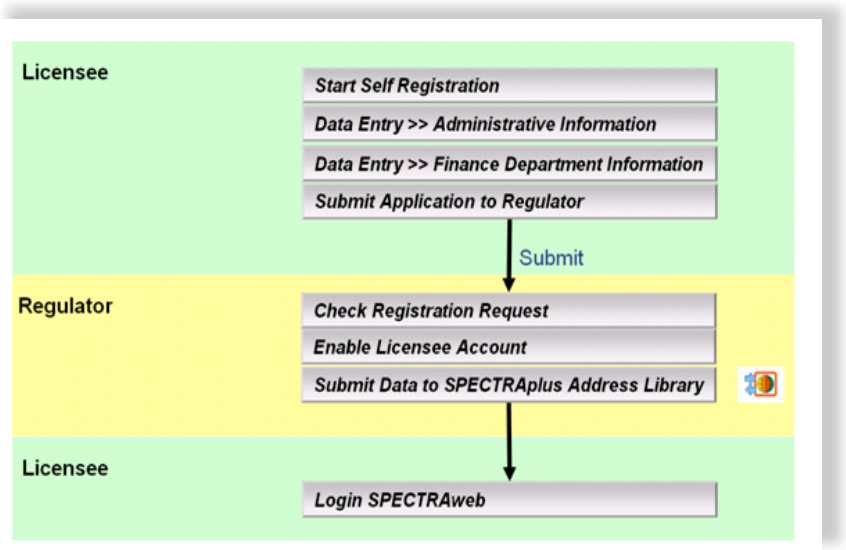
  (only data which is requested will be forwarded and only in the expected format, there is no forwarding of undefined files or embedded scripts)

- Use of WEB services as data exchange seeks to avoid direct file transfer, which can be a source of trouble in Web exposed systems:
  - The registering device is calling a WEB service and may only fill in th data elements the Web service is requesting. Failing to supply the answers in the correct type and format will result in immediate rejection of the application.
  - Exchange of Delta Updates also via WEB services, again offering only standardised and formerly agreed formats. Any other attachment will be blocked.
- Avoidance of Spam by allowing only registered users/devices to access the database.

- Use of a 256 Bit AES code scrambling after the device has initially registered at the database in order to avoid fake notices.

- Possible use of an FCC registration number (FRN) for low power devices registering. Here we see by the way the biggest risk of misuse and Spam if these devices are not bound under a strict regime. Without a defined secure authentication of these devices, a simple Spam emitter could block all White Space databases for operation within the complete country. We also recommend also an additional procedure with a secure code provided by the producer of the Low power devices.

- Secure self registration process for new applicants:



The specific methods of interfacing with databases and TVBD's will be coordinated with the other database operators and the hardware suppliers.

TV Band White Spaces
Database Administrator Proposal

TV Band Database Proposal Presentation

KB Enterprises LLC and LS telcom AG

KB Enterprises LLC - Key Corporate Facts

- Established in 2008 by Karen Wrege and Brett Tarnutzer
- Software and services for spectrum management including market based mechanisms and unlicensed use
  - Spectrum auction platform
  - Members of the Open Spectrum Alliance
- Global spectrum management issues
  - Recent spectrum liberalization study for the GSM Association
- Founders designed, built and managed the FCC‘s Universal Licensing System and multiple FCC Spectrum Auctions Systems

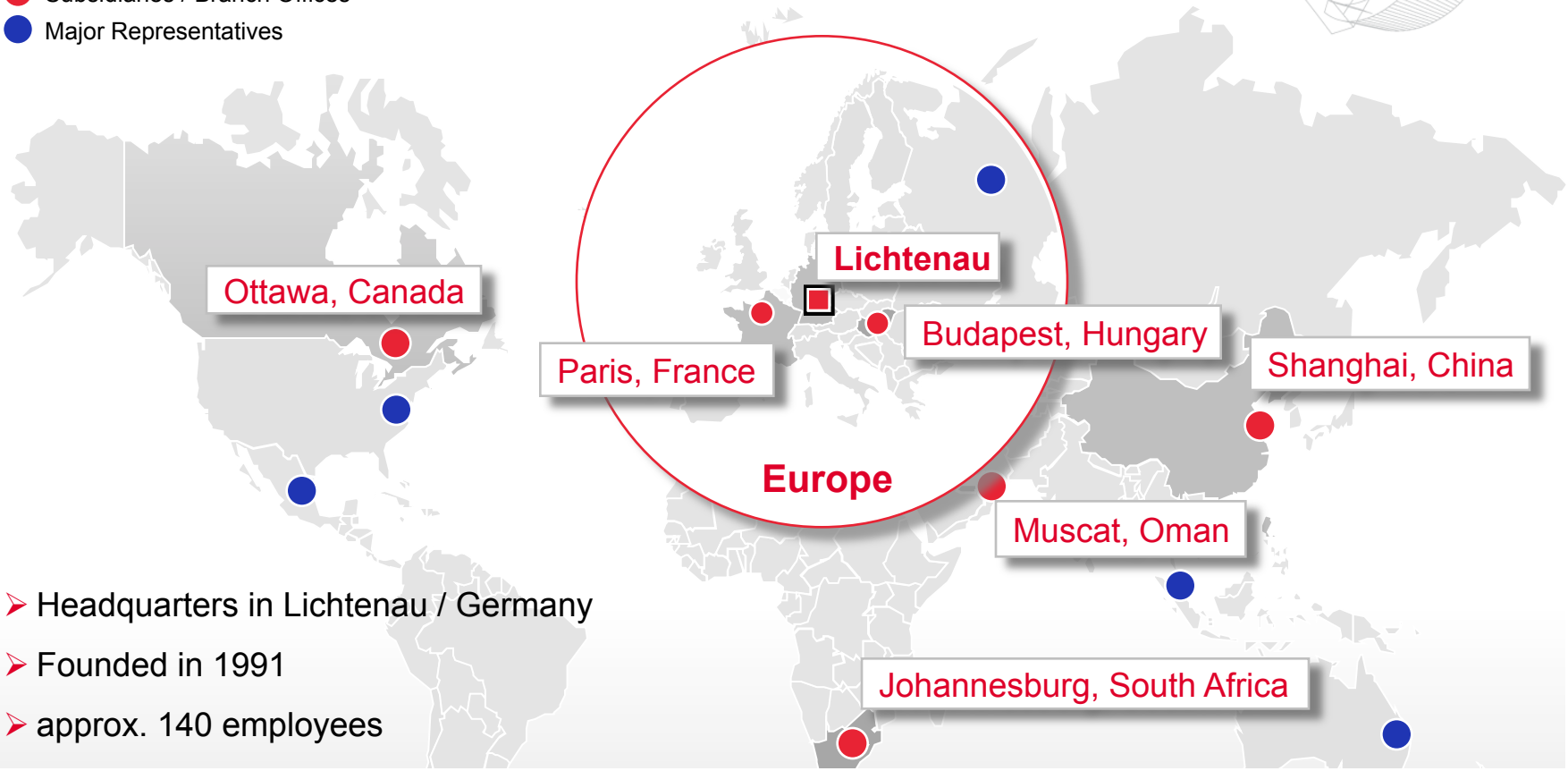
LS telcom - Key Corporate Facts

- Established in 1991 by Dr. Lebherz and Dr. Schöne
- Integrated portfolio of software and consulting solutions adressing the needs and requirements in radiocommunications management
- Customer group includes
  Telecom Regulators, Telecom Operators, System Vendors, System Integrators, MODs, etc.
- Approximately 140 employees
  Worldwide (2009)

- Global market leader in provisioning of frequency management solutions

LS telcom - Subsidiaries and Support Offices

- Subsidiaries / Branch Offices
- Major Representatives



- Headquarters in Lichtenau / Germany
- Founded in 1991
- approx. 140 employees


German Headquarters


Muscat


Paris


Ottawa


Shanghai

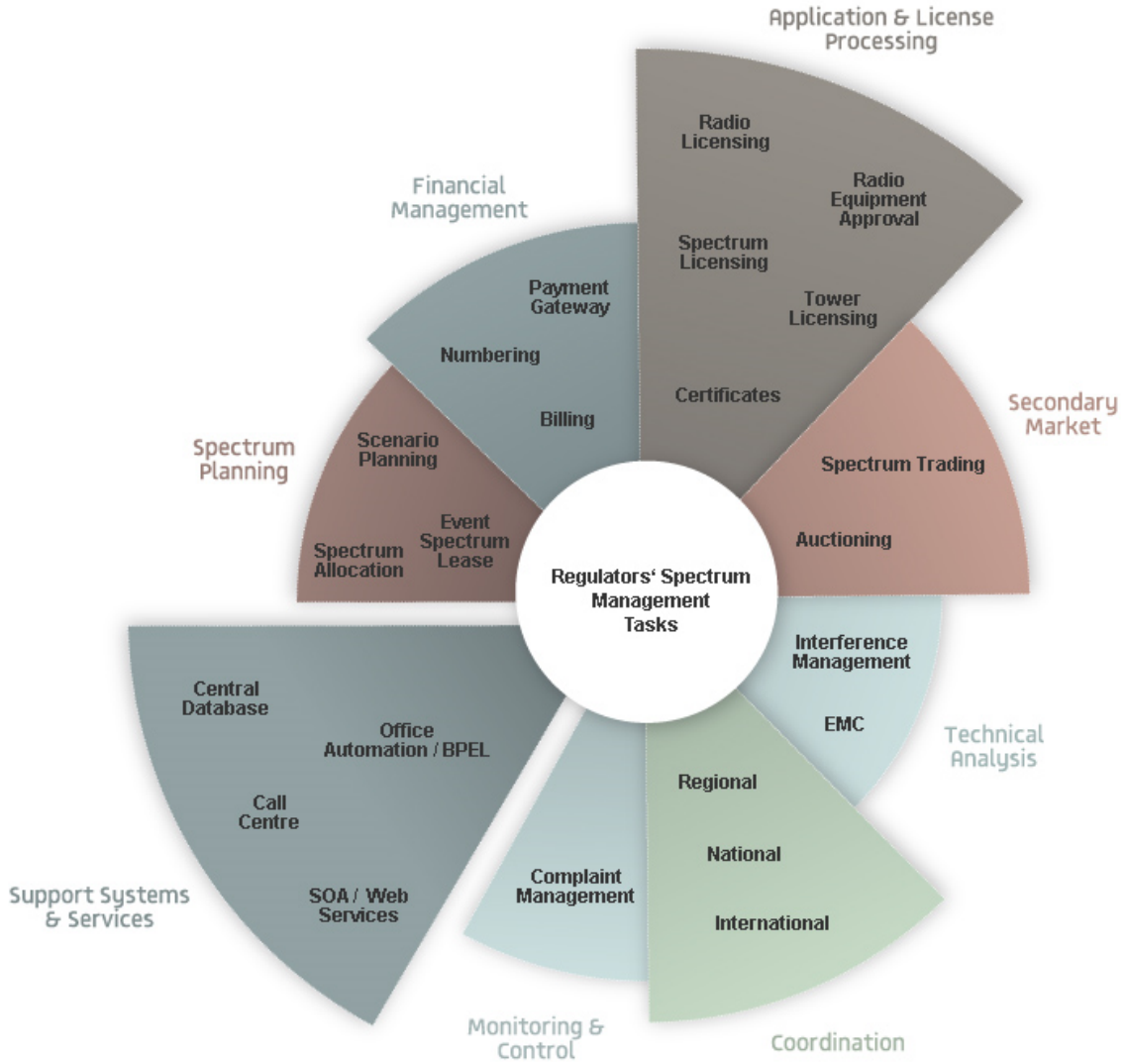

Budapest


Johannesburg

Core Competencies

- Consulting services for network operators and radio frequency administrations
- Standard software suites supporting spectrum economy: Frequency planning, coordination, assignment, licensing and control.
- Spectrum Management Enterprise solutions for complex business process automation

Regulator‘s Tasks and System Requirements



Worldwide Experience and References

Partnerships and Cooperation

- Multinational and Global Organizations
  - International Telecommunications Union (ITU)
  - European Conference of Postal and Telecommunications Administrations (CEPT)
  - European Radiocommunications Office (ERO)
  - Inter-American Communications Commission (CITEL)
  - Telecommunications Executive Management Institute of Canada (TEMIC)
  - Broadcast Mobile Convergence Forum (bmcoforum)

- Research & Development Institutes
  - Institut für Rundfunktechnik (Germany)
  - Communications Research Centre (Canada)
  - Various Universities

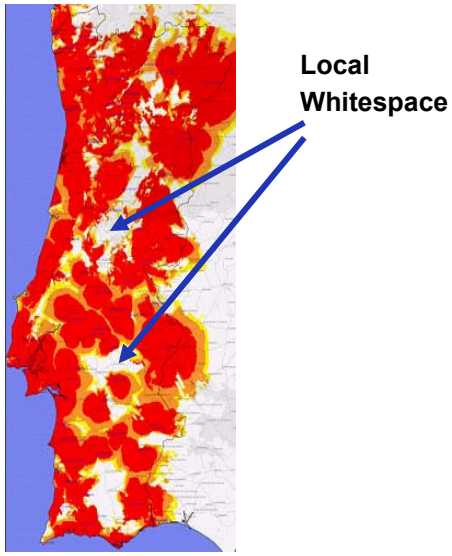
Differentiation as TVBD Service Provider

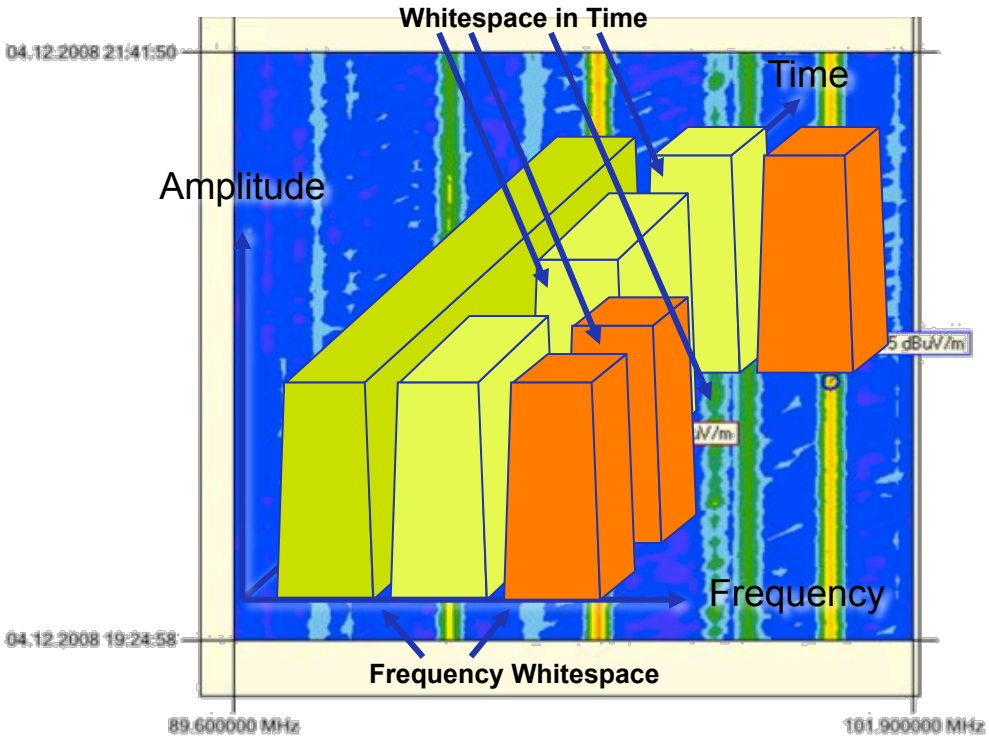
KBE and LS telcom's qualifications:

- Two decades practical expertise in frequency management services and software, including the FCC's ULS and associated systems (CORES, CDBS, COALS, ITFS, et al.)
- Strong development resources with approx. 100 staff IT and radio experts
- Implemented several online portals for web-based public services
- Only company with commercial interfacing solution to radio monitoring systems in a multi-vendor set-up
- System is prepared for future challenges already.
  - Beyond pure geometrical rules: configurable complex coordination algorithms readily available and practice proven
  - In-depth interference analysis: high volume, high speed processing

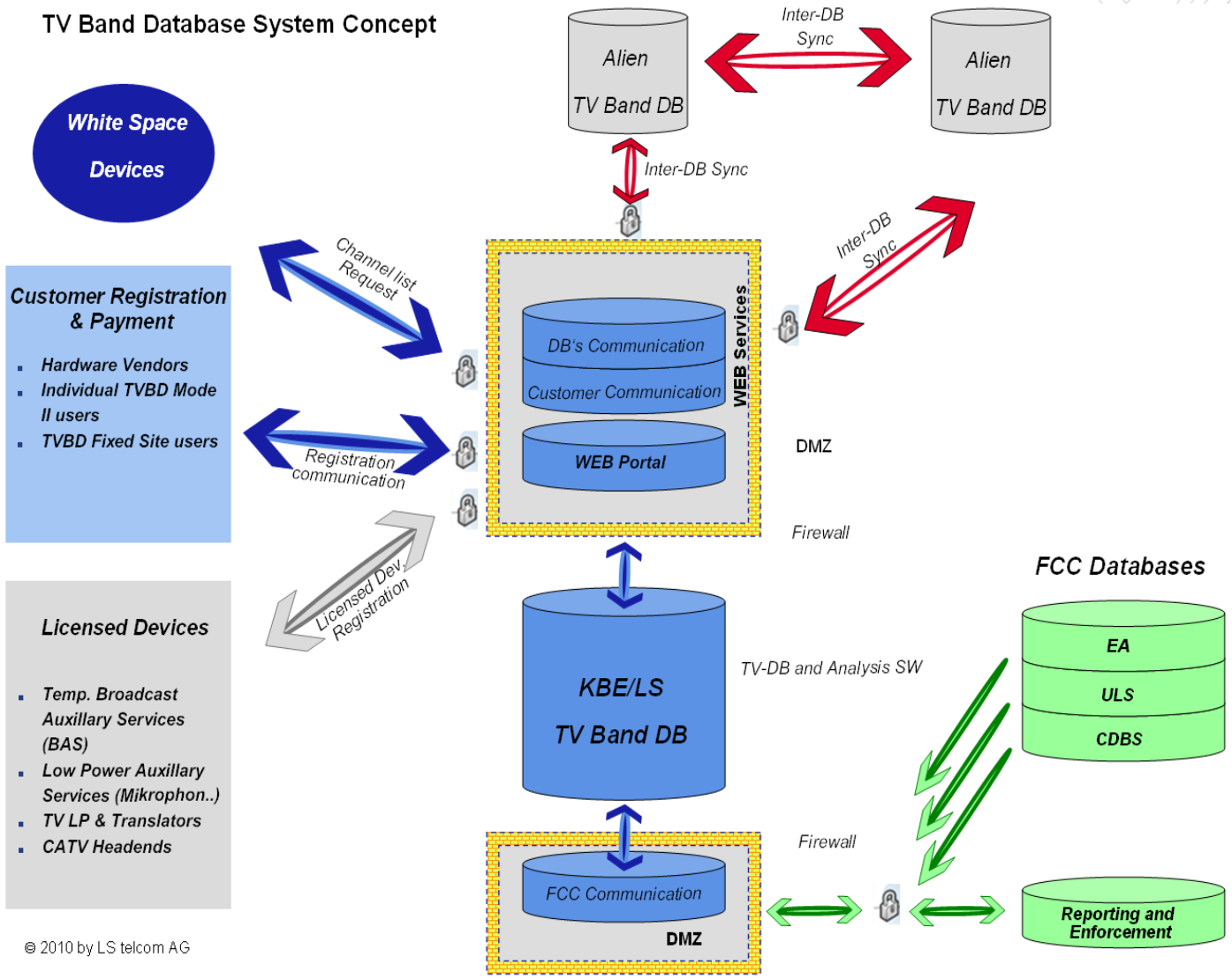
White Space Determination I

- **White Space databases**
  - Where are which frequencies and which services when in use
  - Is the frequency open for secondary usage
  - Is use negotiable?
  - At which costs and restrictions?

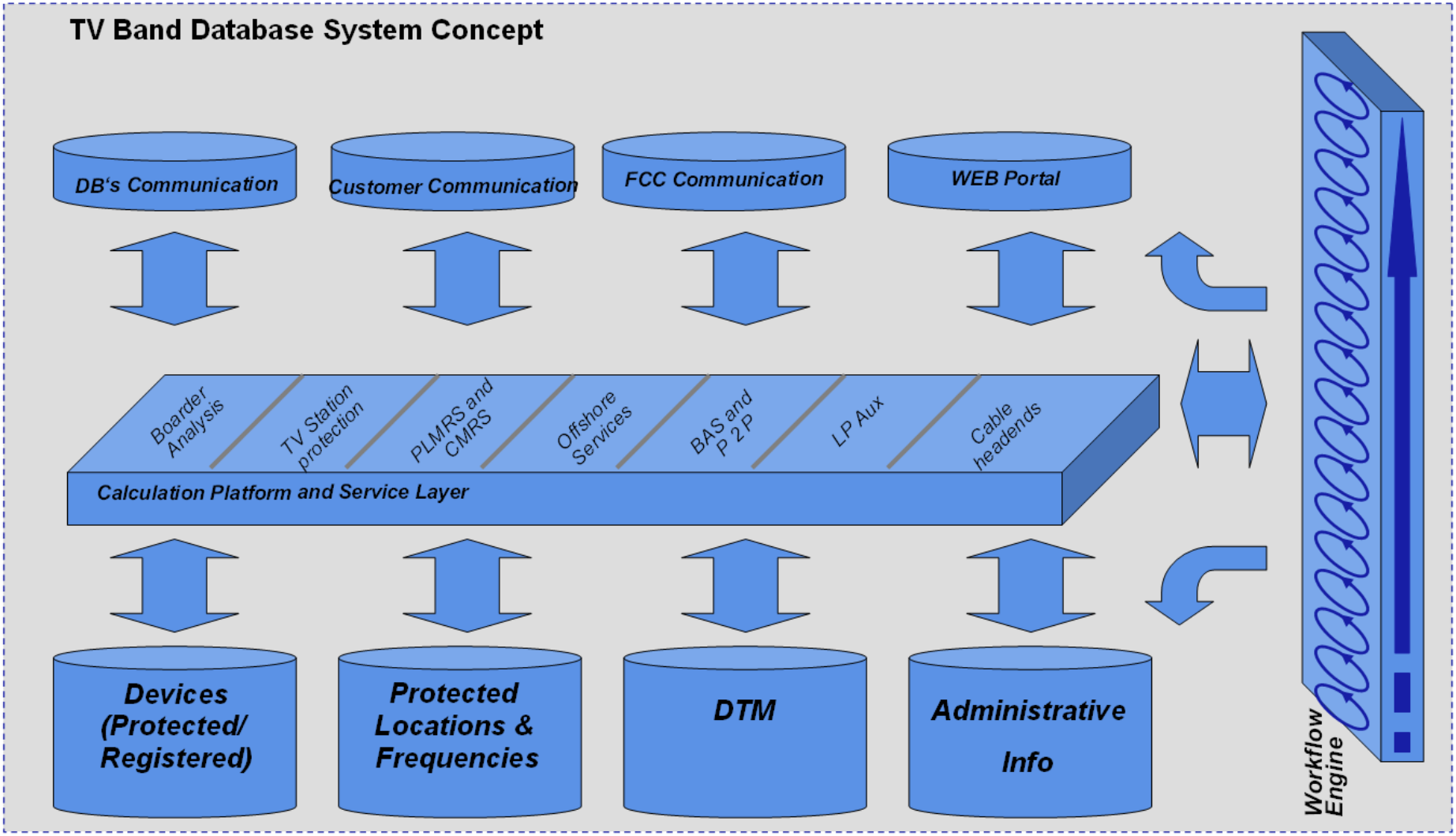




White Space Database Set-Up for TVBD

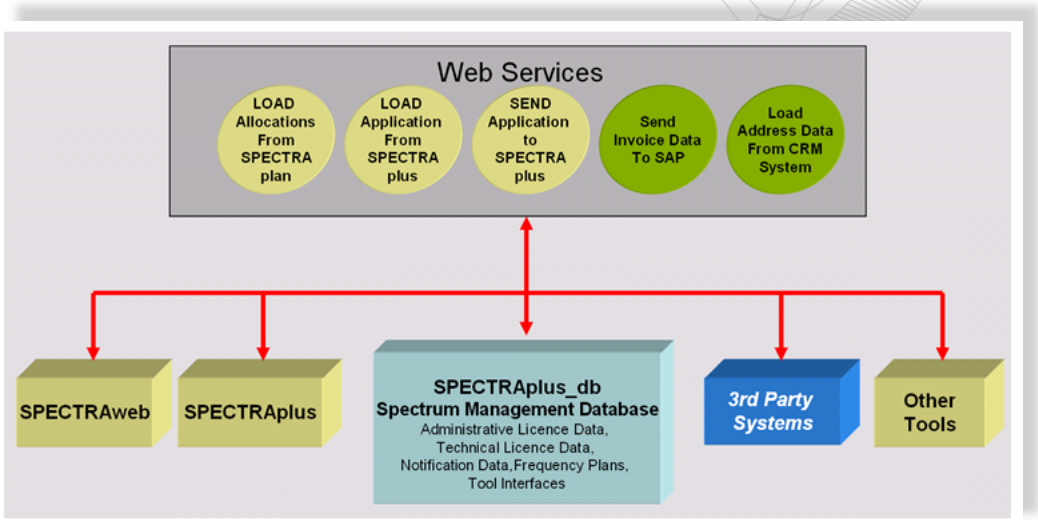


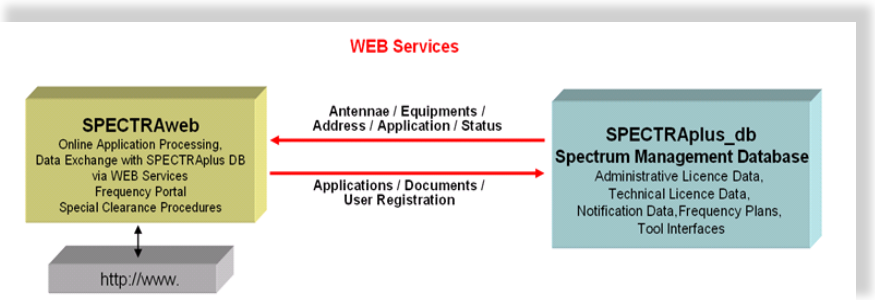
TV Band Database System Concept

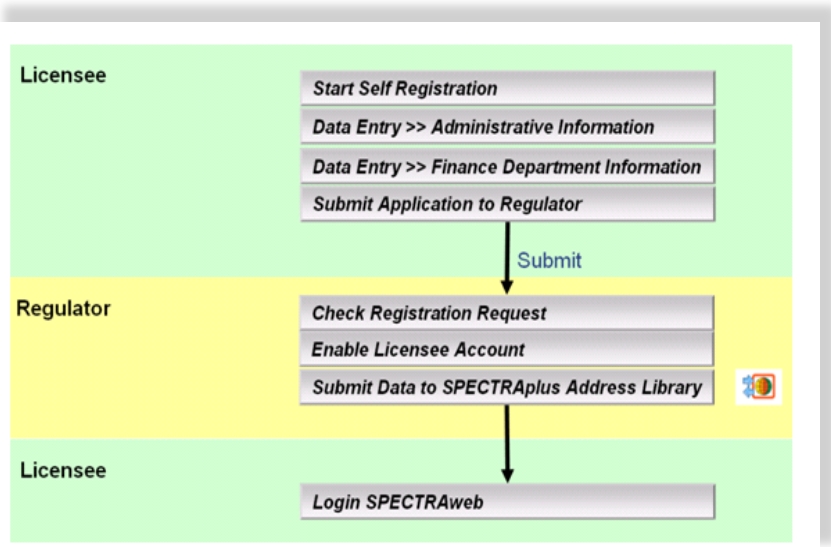


Online Portal Communication Basics

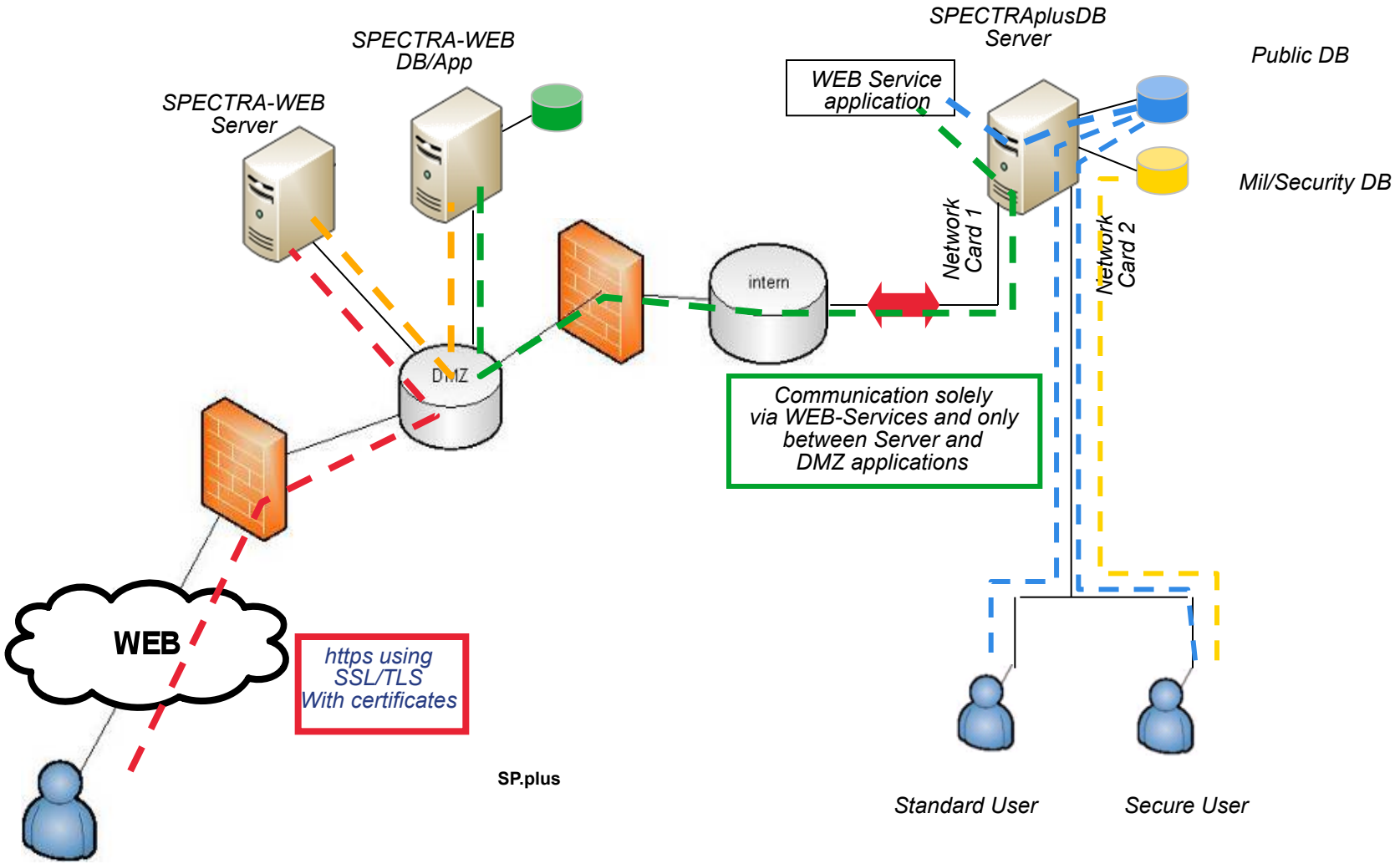
- **SOA Architecture**
  - WEB-services for internal/external functionalities
- **Online Functions**
  - User Self Registration
  - Online Application Process
  - Master data access
  - Attachments





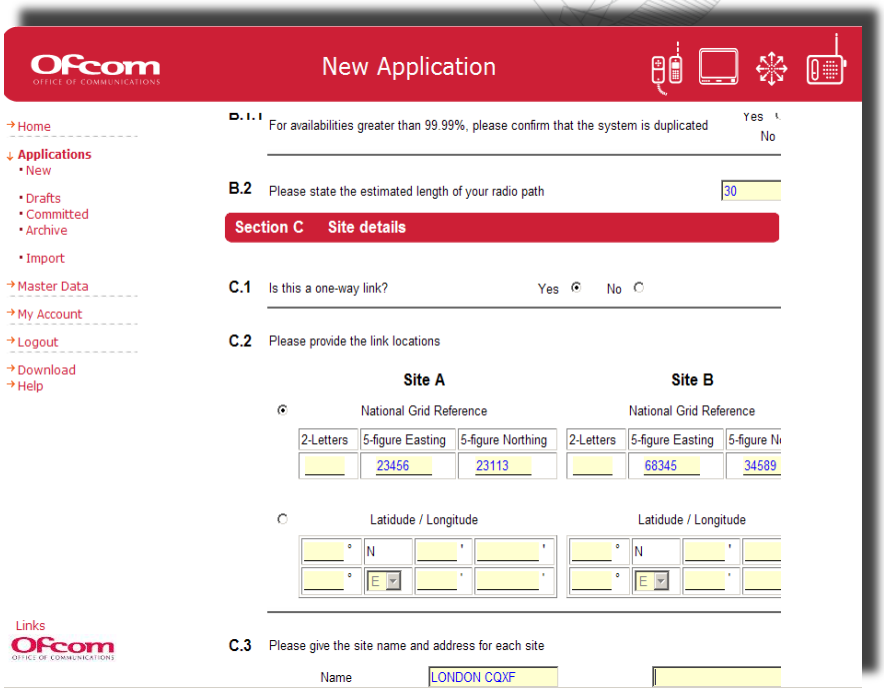


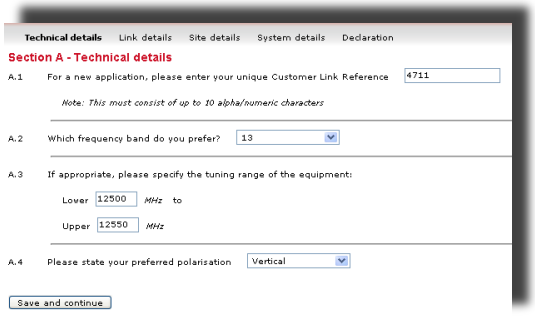
Security Issues Matter

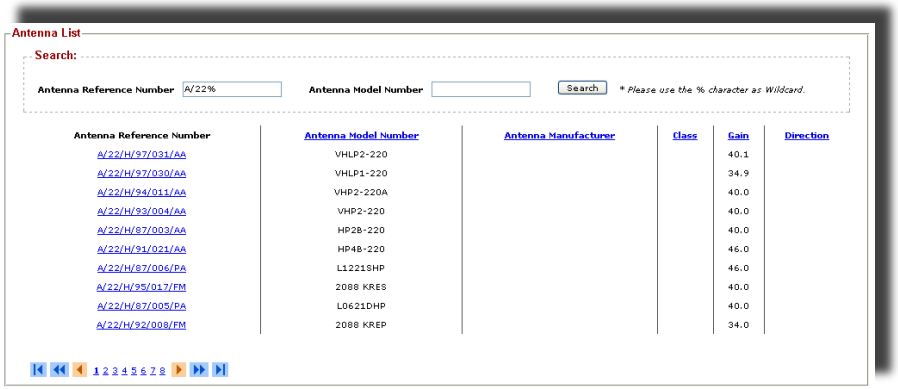


Systems Proven In Practice: SPECTRAweb

- **Online data transactions with SPECTRAplus database**
  - Customized data validation functions
  - Online master data access (addresses, antennas, equipments,…)
  - New technology for accessibility requirements
  - Batch procedures
  - Direct data transfer to SPECTRAplus database via WEB services
  - Self registration procedure (**eCustomerRegistration)**







Redundancy Is A Key For Performance

- **System Availability**
  - Use of Multi-Twisted Server/ Storage Combinations allow for extremely high MTB and data availability. With additional backup the system may be seen as completely protected.